US Army Medical Research and Materiel

Technology Available for Licensing

Disposable Pulse Oximeter Assembly and Protective Cover Therefor

Features and advantages:

- **Lengthens the operating life of oximeter sensors**
- **Allows for the use of oximeter sensors in body cavities**
- **Reflectance pulse oximeter values correlated closely with digital oximeter values in human studies**

This invention provides a protective covering to protect off-the-shelf disposable pulse oximeter sensors from bodily or surgical fluids where the fluids may compromise electrical components, and a method for its use. The protective covering will envelop and encase the inserted pulse oximeter sensor up to a point on the connection cable that extends from the pulse oximeter sensor. The protective covering is a polypropylene, rubber, or similar material, which preferably is tapered from the large width at the entrance to the narrower width at the blind end. The protective covering is bilaminar in nature and contains a substantially rectangular pulse oximeter.

It is difficult to predict when a disposable pulse oximeter sensor will malfunction due to exposure of its electrical components. Bodily fluids that come in contact with conventional, off-the-shelf disposable pulse oximeter sensors upon insertion into an open wound or body cavity negatively affect the operation of the pulse oximeter sensors. Disposable pulse oximeter sensors will begin to electrically malfunction over time, because liquid from the body cavity or wound will begin to break down the protective material around the electrical components and then seep into the area around the electrical components and short circuit the disposable pulse oximeter sensor [illegible] the sensor to malfunction. The protective covering will allow off-the-shelf disposable pulse oximeter sensors to be used in a greater number of locations within [illegible] or animals. In particular, oximetry will be able to [illegible]rmed in the oral cavity on the lingual or buccal mucosa, the palate or the posterior pharynx, as well as on intravaginal capillary beds.

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KEYWORDS: Alternative oximetry; disposable; protective bilaminar covering

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